

Table 12. Snowfall in Inches by Winter Seasons, 1911-1951

Winter of	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	Total
1911-12			9.0	12.0	3.0	2.0	3.5	3.0		32.5
1912-13			3.8	4.0	4.2	7.7	18.3	3.8		41
1913-14		2.0		2.5	13.5	6.5	5.0	5.5		35.0
1914-15				3.5	23.2	11.0			2.0	39.7
1915-16		2.0	2.4	9.6	31.9	5.0	21.5	1.3		73.7
1916-17		8.0	0.6	5.8	8.8	8.1	14.4	6.0		51.7
1917-18		7.5	0.8	10.4	13.7	3.0	4.5	5.7		45.6
1918-19		0.4	T	17.5	6.3	14.0	2.0			40.2
1919-20		24.5	44.8	5.6	19.0	7.5	8.0	6.5		115.9
1920-21			15.2	10.3	6.0	5.8	12.5	3.5		53.3
1921-22			11.5	16.0	10.5	49.3	18.0	11.5		116.8
1922-23			3.0	13.6	23.5	2.6	14.0	1.7		58.4
1923-24			1.5	6.1	3.4	9.8	7.3	10.0	7.0	45.1
1924-25			6.5	7.7	2.6	7.0	3.6	4.5		31.9
1925-26		1.3	3.5	5.0	3.5	11.5	15.5	0.9		41.2
1926-27		3.8	6.8	15.2	4.8	11.8	3.9	1.6		47.9
1927-28			11.5	22.4	5.7	3.2	7.4	11.0		61.2
1928-29				14.3	14.2	2.9	7.5			38.9
1929-30			5.1	12.2	6.4	11.8	5.6			41.1
1930-31				T	1.5	2.6	6.8			10.9
1931-32				T	15.3	4.6	7.4	9.5		36.8
1932-33			3.0	T	7.1	8.2	T	8.0		26.3
1933-34		10.7	12.0	18.5	6.9	2.4	8.8	2.9		62.2
1934-35			2.0	26.3	28.7	3.8	6.8			67.6
1935-36			6.8	5.7	12.8	20.0	16.8	1.0		63.1
1936-37		8.7	14.3	14.6	26.0	17.2	3.5	5.0		89.3
1937-38			2.3	7.6	12.4	6.7	8.1			37.1
1938-39		1.5	5.4	12.9	8.0	38.8	12.9	17.0		96.5
1939-40		1.3	1.5	3.5	4.5	15.7	24.8	T		51.3
1940-41			16.7	5.7	17.9	16.2	15.1	3.6	T	75.2
1941-42		1.0	T	6.3	4.1	4.7	19.1	4.2		39.4
1942-43		7.5	1.4	15.4	11.2	8.2	18.9	1.2		63.8
1943-44			22.5	2.5	3.3	13.5	19.7	2.0	T	63.5
1944-45			4.5	6.3	17.1	23.9	5.0	6.0		62.8
1945-46		T	4.4	9.1	13.7	4.8	0.4	0.7	T	33.1
1946-47		T	5.4	20.0	6.7	3.8	9.0	12.3		57.2
1947-48			23.6	7.4	20.8	17.9	13.4			83.1
1948-49			8.2	10.1	28.5	11.7	8.1			66.6
1949-50			8.8	5.1	30.0	10.0	22.4	29.6	4.6	110.5
1950-51			10.3	37.2	13.8	16.4	32.3	3.3		113.3
40 year average	2.0	7.0	10.2	12.4	10.8	10.8	4.6	0.3		58.1

T—Trace of precipitation; less than .01 inch.

Table 13. Average Number of Days Clear, Partly Cloudy, and Cloudy by Months, 1912-1951

Sky condition	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Clear	10.8	11.7	12.1	11.1	10.3	8.7	11.5	10.7	10.2	10.4	7.8	9.2
Partly cloudy	10.1	8.3	10.1	10.1	11.9	13.3	13.8	14.2	10.9	9.9	9.1	8.4
Cloudy	9.3	8.2	8.8	8.7	8.7	7.7	4.9	6.0	8.8	10.7	13.0	12.5

Table 14. Average Number of Days of Each Wind Direction by Months, 1912-1951

Wind direction	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Percent
N	1.0	1.1	1.1	1.3	1.2	0.5	0.6	0.8	0.7	0.9	1.1	1.2	3.2
NE	1.9	3.0	5.1	4.9	5.1	3.5	1.9	2.0	2.5	2.4	2.2	1.8	10.0
E	1.4	1.3	2.4	4.0	4.9	4.1	3.4	3.5	2.9	2.4	1.5	1.1	9.1
SE	3.2	3.2	3.5	4.0	4.3	5.4	5.5	5.6	5.6	5.1	3.8	3.5	14.5
S	2.2	1.9	2.2	1.8	1.5	1.6	2.5	2.6	2.4	2.3	1.4	1.8	6.7
SW	6.5	4.3	4.3	3.8	3.9	4.6	5.8	4.9	4.8	5.7	5.5	5.3	16.4
W	3.7	3.2	2.5	2.0	2.5	3.3	3.4	3.6	3.3	3.1	3.2	3.7	10.4
NW	11.0	10.1	9.8	8.0	7.5	6.6	7.7	7.8	7.6	8.9	10.9	11.8	29.7

ORGANIZATIONAL PROBLEMS IN DEVELOPING THE SMALL WATERSHEDS OF MINNESOTA



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Organizational Problems in Developing the Small Watersheds of Minnesota

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LOCAL GROUPS, in cooperation with state and federal governments, can now act as local administrators of watershed programs. This was made possible by Public Law 566, "The Watershed Protection and Flood Prevention Act," passed by the 83rd Congress in 1954 and amended by the 84th Congress in 1956. This bulletin discusses the experiences of the first two years under this act in Minnesota and tells how local organizations can fit into the program. In addition, it examines state and local policy, legislation, and agen-

cies in an attempt to suggest a more coordinated program.

If a watershed program is to be successful, individuals must be united through some form of local organization. The problems involved in initiating applications, financing local constructions, determining benefits and damages, and providing for operation and maintenance cannot be solved by individual action. An organizational structure is needed to determine policy and administer programs.

Minnesota Water Legislation

MINNESOTA HAS had a wide range of experience with different kinds of organizations to handle water management. Over the years water has been considered, in turn, a nuisance, a menace, and a resource. An organizational structure that might be perfectly adequate to handle water as a nuisance might be an actual handicap to handle water as a resource.

EARLY EMPHASIS

The state legislature has passed relatively few major laws dealing with water. Since 45 percent of Minnesota's soils were originally formed under wet conditions, early efforts were directed toward drainage.

The first drainage law was passed in 1858 to regulate and encourage drainage. Under this law, the agency formed to handle drainage was a private corporation. To function, this corporation had to obtain written permission of a majority of the owners or occupiers of the land, and it could levy a pro-rata tax on all lands benefited.

This law contained several principles still followed today. Most important are the principles that:

1. A majority of land owners may use the lands of the minority as an outlet.
2. The cost of the ditch is to be financed by a special assessment based upon benefits received.

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Pictures in this bulletin (excepting on page 19) were provided through the courtesy of the Soil Conservation Service, U. S. Department of Agriculture.

3. Owners must be compensated for damage to their property.

WATERSHED APPROACH

Government agencies became involved in drainage work early: the town in 1877; county, 1883; State Drainage Commission, 1893; and district court, 1902.

Ben Palmer in his publication, *Swamp Land Drainage With Special Reference to Minnesota*, pointed out in 1915 that as drainage work developed, drainage ditches had to be extended over larger areas without regard to the artificial boundary lines of towns, counties, or judicial districts. Consequently, the use of governmental agencies having ever greater territorial jurisdiction and more power and authority was advisable.

This report was one of the early appeals to solve water problems on a watershed basis. Palmer had great faith in the value of a state drainage commission. In 1915 drainage was considered to be almost the sole water problem. Thus if a state agency had authority to coordinate drainage projects, it had authority to coordinate all water projects in existence.

However, this concept is no longer true. The State Drainage Commission has been abolished, and its functions transferred to the Director of the Division of Waters. While the Director still reviews and makes recommendations on all drainage petitions, because of the expanded concept of the position of the state in water problems, he does not have the power to act as a coordinator at the state level.

In 1947 the legislature abolished the town and state drainage laws. At present counties and district courts are the agencies through which ditches are established.

CONSERVANCY DISTRICTS

In 1919 the legislature passed the forerunner of our present "Drainage and Conservancy District Act." In pass-

ing this act, the legislature stated, "Drainage and flood control are clearly within the functions of governmental action, and the exercise of the right or authority to authorize or direct drainage, carries with it the right to care for and control the waters thus gathered and turned into natural or artificial channels."

The legislature realized that problems of drainage and flood control are related. The conception had changed from a single goal of drainage to a dual goal (drainage and flood control). The organizational concept was also substantially changed. Faced with a choice between existing local governmental agencies (townships, counties, judicial districts) and a special district (drainage and conservancy district), the legislature chose the latter.

The 1919 statute, however, has been used little, perhaps largely because most land owners still considered the problem to be strictly drainage. Another reason might be that the method of finance was not substantially changed. A method of finance adequate for drainage might be wholly inadequate for flood control.

WATER AS A RESOURCE

The first clear-cut legislative recognition of water as a resource came in 1937 when a permit system, administered by the Division of Waters, was started. Among other things, this system controls the appropriation and use of surface and underground waters of the State. At the same time, the Commissioner of Conservation was directed to develop a general water resources conservation program. Lack of funds and information have prevented the full development of the 1937 program.

Although there had been several important procedural revisions before 1955, the substance, philosophy, and general concepts of operation remained unchanged.

Early concepts of water problems involved direct damages, direct benefits, and direct costs. The organizational

forms were accordingly simple and single purpose. The objective of a drainage ditch is to get rid of water. The benefits are immediate and specific, and special assessments on the property benefited are appropriate.

With the emergence of flood control problems and the recognition of water as a resource, the concept of the nature of damages suffered has grown more diffuse.

Federal Program for Small Watersheds

IN MANY RESPECTS, the development of federal water resources policy was similar to Minnesota's. The early programs were single purpose (flood control, irrigation, or navigation). During the 1930's, the valley development approach changed the concept to multiple purpose programs. This approach required a coordinated effort between federal agencies. It also raised a question as to whether or not the program should be administered by a special agency, i.e., a valley development authority, or by existing general agencies on a cooperative basis.

Various methods, including inter-agency committees, have been used in an attempt to bring about the needed cooperation. An advisory committee appointed by the President in 1954 stated, "The greatest single weakness in the federal government's activities in the field of water resources development is the lack of cooperation and coordination of the federal agencies with each other and with the states and local agencies."

Water resources development programs are becoming more complex because of a shift from single purpose to multiple purpose projects and a shift from strictly local, state, or federal programs to those sponsored by some combination of these governments. As the programs become more complex, the problem of organization and cooperation becomes more important.

In addition, many of the benefits, although very real, are indirect and accrue to people other than the property owners directly involved. The increased realization of the importance of indirect benefits and of the need for complex measures of organization and finance, creates the setting within which Minnesota's water problems and programs must be viewed.

P. L. 566 brought into being a new multiple purpose program in which the federal, state, and local governments play an active role. By December 1, 1956, in Minnesota alone applications for assistance under the program were made for 21 watersheds, totaling 1,710,084 acres.

PROGRAM OBJECTIVES

Federal Public Law 566 was designed to fill the gap between the farm-conservation programs and the flood-control programs on the major rivers. It is an attempt by the federal government to help local groups plan and install water-management and flood-prevention programs that cannot be installed by individuals acting alone or in small groups. It is to be a local program with federal assistance, rather than a federal program with local participation. The *Interim Watershed Protection Handbook* of the Soil Conservation Service says:

"It is unlike other national conservation programs for its project-type approach requires the development of a physically and economically sound plan of improvements scheduled for execution over a definite period of years. Firm commitments are required from local organizations of the states for sharing the cost of installation and assuming the operation and maintenance (with certain exceptions on Federal Land) and for meeting other re-

quirements as a condition for federal financial assistance in carrying out the improvements."

In general, the act has two goals: (1) flood prevention, which may include structural and land-treatment measures; and (2) conservation, development, utilization, and disposal of water. Watershed measures for flood prevention, drainage, irrigation, or other phases of management of water in agriculture are eligible for some form of assistance. Among the nonagricultural phases of water control and use, only flood prevention measures are eligible for federal financial assistance for construction under this act.

BASIC FEATURES

P. L. 566 authorizes the Secretary of Agriculture to assist local organizations in carrying out works of improvement jointly planned and mutually agreed upon for flood prevention and for the conservation, development, utilization, and disposal of water. The Secretary has assigned the Administrator of the Soil Conservation Service responsibility for the program.

A few of the major duties of the Administrator are: establishing procedures for receiving and approving applications; determining measures eligible for assistance; establishing standards for development of work plans, program justification, and cost sharing; assigning planning priorities on a national basis; and cooperating with other federal and state agencies. State conservationists represent the Administrator at the state level and assist him in carrying out these duties.

Some additional features of the program are:

1. Local organizations (with appropriate powers under state laws) that are eligible to sponsor a project include: state agencies, political subdivisions of the state, soil and water conservation districts, flood prevention or flood control districts, or any other agency hav-

ing authority under state law to carry out, maintain, and operate works of improvement.

2. Project areas are limited to watershed or subwatershed areas that do not exceed 250,000 acres, except that if the local sponsoring organizations so desire, several such watershed areas may be planned together where they are component parts of a larger watershed.

3. The act provides a limitation on single structures of 5,000 acre-feet of floodwater detention capacity, and 25,000 acre-feet of total capacity. Watershed work plans that include Federal contribution to construction cost over \$250,000 or any structure of more than 2,500 acre-feet of total capacity must be approved by the appropriate committees of the House and Senate before an appropriation may be made for the project.

4. The local organization must assume an equitable proportion, based on direct identifiable benefits, of the costs of installing works of improvement applicable to agricultural phases of the conservation, development, utilization, and disposal of water. The entire construction cost applicable to flood prevention is contributed by the federal government, while the installation cost of works applicable to other (nonagricultural) purposes is borne by the local organization.

5. The act provides for federal assistance in preparing work plans, for determining the physical and economic soundness of the plans, and for providing funds to assist local organizations in installing works of improvement. It also provides that in certain cases the Secretary shall reimburse the local organization for the cost of private engineering services. Assistance can be provided only after it has been determined that benefits exceed costs.

6. The Secretary is authorized to make loans to the local organizations to finance the local share of costs of carrying out works of improvements.

FINANCIAL REQUIREMENTS, STANDARDS

A knowledge of the cost-sharing criteria and financial requirements is essential to understand the act. Studies of benefit-cost relationships serve three main purposes.

First, the benefit-cost ratio (total benefits/total costs) should determine whether the project is economically feasible.

Second, a comparison of the ratios for various possible projects will indicate which project offers the best return on the investment.

Third, the studies can serve as a means whereby the cost of the project can be equitably distributed among the individual beneficiaries.

However, benefit-cost studies involve a great deal of personal judgment. Certain costs and benefits can be measured in dollars, but estimated costs may be inaccurate or benefits based on future prices and interest rates may be misjudged. In addition, certain costs and benefits are not usually measured in dollars (protection of wildlife and rec-



Fig. 1. Tiling is an example of locally borne costs.

reation, losses due to the removal of property from local tax rolls, etc.). An attempt can be made to standardize the value given to nonmonetary factors, but personal judgments cannot be eliminated. Despite these limitations, benefit-cost studies are necessary and should be used in selecting projects.

Certain costs must be borne locally; others are eligible for federal assistance. The general standard is that the local share of the costs shall be "equitable in consideration of the direct identifiable benefits. . . ." The Secretary of Agriculture is legally responsible for determining what is equitable within the framework of certain more specific statutory requirements.

Required Nonprogram Costs

P. L. 566 funds are not available for (1) land, easements, and rights-of-way on nonfederal lands; (2) cost of water rights; (3) providing capacity in structures for purposes other than flood prevention or agricultural phases of the conservation, development, utilization, and disposal of water; (4) operation and

maintenance of measures on nonfederal land and of measures other than land treatment on federal land to the extent that benefits accrue to nonfederal beneficiaries; and (5) the cost of administering contracts let by organizations other than the federal government. Unless funds are available from other federal programs, or from state contributions or other sources, the local people will have to bear these expenses.

Types of Cost

Under the act, costs are divided into several types. The classification depends on whether the funds are expended on public or private lands; whether they are for protection or for improvement; and whether they are for planning, land-treatment measures, or structural measures. Program costs, therefore, have been broken down into the following:

1. **Planning services** cover all assistance and services, provide for surveys and investigations and preparation of work plans prior to authorization of assistance in works of improvement. Planning services also include costs for collection and analysis of basic data,

economic analysis, and river basin coordination studies.

2. **Technical assistance** includes assistance provided landowners and operators, from appropriations made under authority of the act for the planning and application of land-treatment measures.

3. **Installation services** cover all services other than planning services and technical assistance. Included are surveys, site investigations, layout, design, preparation of specifications, supervision of construction, and related forms of assistance.

4. **Land-treatment** includes those incurred (1) from appropriations made under authority of the act for (a) technical assistance and (b) for planning and applying land-treatment measures on federal land; and (2) those incurred by landowners and operators for installation.

5. **Structural measures** are those directly related to the installation, operation, and maintenance of structural works of improvement authorized under the act. They include installation services such as field surveys,

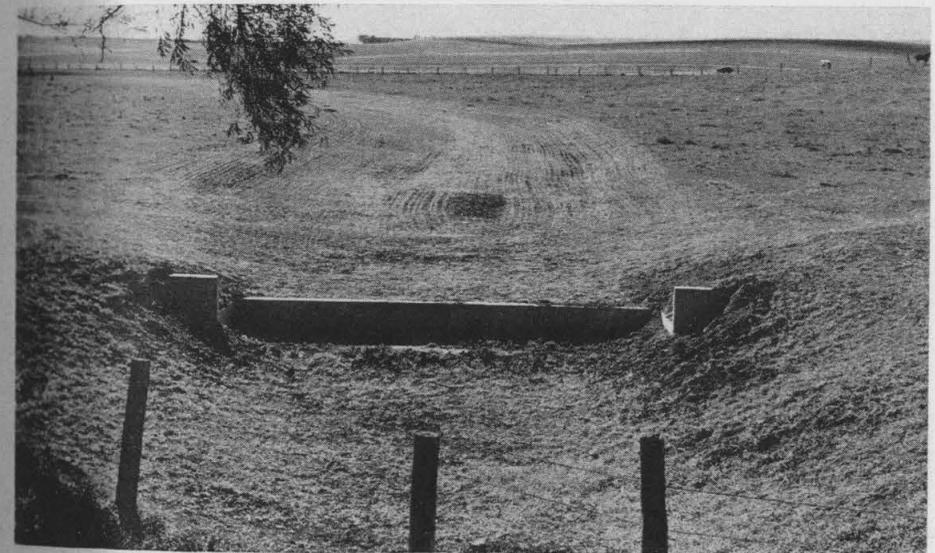


Fig. 2. Control structures are an important part of water regulation programs.

design, preparation of specifications, contracting, supervision of construction, etc.; actual construction costs; and the cost of operation and maintenance.

Federal Assistance on Costs

Federal appropriations under the act may be used for planning services, technical assistance, installation services, construction cost of flood prevention structures, and a share of the cost of structural measures applicable to the agricultural phases of water control.

On nonfederal lands, no federal financial assistance for installation of land-treatment measures will be provided from appropriations made under authority of the act. Additional federal technical assistance may be provided for planning and installation of eligible land-treatment measures only to the extent required to supplement that available under other programs in order to complete the watershed project within the agreed time schedule.

On federal lands the land-treatment measures will be installed, operated, and maintained by the agency administering such land. P. L. 566 funds may be used to install land-treatment measures on federal lands only to the extent necessary to complete the application of such needed measures during the scheduled period for completion of the project.

Classes of Benefits

The federal contribution towards the cost of structural measures varies with the purpose of the structure. For flood prevention the federal government contributes the entire construction cost; for agricultural phases of the conservation, development, utilization, and disposal of water, the installation cost is divided between the federal government and the local organization; for any other purpose the local organization must finance.

When the structural costs are shared, benefits are divided into two classes to determine how much the federal government will contribute.

Either class may accrue directly to local beneficiaries, to other beneficiaries, or to the federal government.

Protection or Class 1 benefits are: (1) flood water and sediment damage reduction; (2) prevention of the destruction or impairment of productivity of land and water resources; and (3) recharging of ground water.

Improvement or Class 2 benefits are those that result from making land suitable for productive agricultural use or increasing its productive agricultural use by irrigation, drainage, or other agricultural water facilities, and by making possible a greater financial return from property protected against floods and related hazards by virtue of changed use (land enhancement).

Class 1 and 2 benefits may be subdivided further into A and B categories. A benefits are direct primary benefits to local beneficiaries; B benefits are those to the federal government and other beneficiaries. Other beneficiaries include those who cannot reasonably be identified or receive such small benefits that it would cost too much to survey them relative to total benefits. In addition, they include those receiving indirect benefits, those receiving community benefits, owners of lands upon which the reduction in average annual damages is relatively small, and beneficiaries outside the project area.

The federal government will share authorized construction costs according to the ratio of 1-B benefits to total benefits. In other words, the federal government is paying for the protection benefits accruing to nonlocal beneficiaries (other beneficiaries and the federal government).

Federal Assumption of Local Costs

The policy of the Secretary states: "If the costs allocated to the local organization for the agricultural phases of the conservation, development, utilization, and disposal of water on the basis of direct identifiable monetary benefits appear inequitable in consid-

eration of intangible or other public nonmeasurable benefits, such benefits shall be taken into account in reaching agreement on cost sharing. . . ." Direct identifiable benefits are those benefits accruing to individuals or organizations that would normally be required to pay special assessments or taxes for such improvements.

Generally it would appear that there would be less need for an adjustment provision since the 1956 amendments liberalized the method of determining the federal contribution, and inserted a loan provision. However, in certain projects it still may be possible to obtain a reduction in the local contribution.

RESPONSIBILITIES OF LOCAL SPONSORS

Before federal assistance may be provided, the local organization must take certain affirmative action and accept certain responsibilities:

1. Local organizations must make application to the Secretary of Agriculture after the application has been submitted for review to the authorized state agency or to the governor if there is no such agency.

2. Primarily the local sponsoring organization is required to: (a) participate in the development of a work plan acceptable to the local organization and the Department of Agriculture; (b) acquire land, easements, or rights-of-way; (c) assume an equitable share of project costs; (d) arrange for and finance operation and maintenance; (e) arrange for any necessary water rights; (f) obtain agreements to carry out recommended soil conservation measures and proper farm plans from owners of not less than half the lands in drainage areas above retarding dams.

3. The local sponsoring organization

is responsible for entering into contracts to install the structures. After the local organization has submitted the application to the governor, or any agency appointed by him, it is forwarded to the Secretary of Agriculture through the state conservationist.

CONTENT OF APPLICATION

Applications for federal assistance may be submitted by a qualified local organization. To be qualified, an organization must have authority under the state law to carry out, maintain, and operate the works of improvement.

The following kinds and items of information generally must be included with the application: the name of the watershed, its size, the physical problems that exist, treatment and installations needed, and proposed local participation.

In considering the last item, sponsors must be concerned with such questions as: Do any of the sponsoring agencies have taxing power? Can condemnation procedures be used to obtain land, easements, and rights-of-way? What credit facilities are available for installation of needed watershed measures? What financial resources are available to the local organizations for planning, installation, operation, and maintenance?

Other information of value includes: The total number of farms, the number of farms that are cooperators with the soil conservation districts, the number of acres under cultivation, and the estimated value of the land in the watershed.

ACTION ON APPLICATION

Approval under the act must go through two stages: (1) approval for **planning** and (2) approval for **construction**. The Appendix gives a detailed explanation of the steps in securing these approvals.

Minnesota's Efforts to Apply the Federal Program

THE 1955 Minnesota Legislature enacted several statutes to modify and strengthen existing laws concerning water. Several were passed so the state

could take advantage of the national small watershed protection and flood prevention program.

INTERIM COMMISSION RECOMMENDATIONS

Most of these changes were based upon recommendations made by the Interim Commission on Water Conservation, Drainage and Flood Control established by the 1953 legislature. The Commission stated, "Members of the Commission are fully aware, too, of the inadequacy of their study. The problems assigned to them are so vast and of so far-reaching importance to the State that they deserve continued study."

As a result of its 18-month study, the Commission recommended that:

1. The functions of the Division of Waters be expanded and specified by statute.

2. There be a separate board to decide application of water policy to particular situations and to achieve, as far as possible coordination of governmental efforts in related fields.

3. The statutory definition of public water subject to public control be clarified by express inclusion of private water affected with the public interest.

4. Certain revisions be made in the Conservancy District Act.

Actions taken by the legislature on these recommendations are discussed in the following sections.

1. Division of Waters Functions Expanded

The 1955 legislature expanded the functions of the Division of Waters. Some of the additional functions are: (1) performance of engineering work for the State Water Resources Board; (2) appearance at all hearings and proceedings before the State Water Resources Board affecting waters within the State; (3) cooperation with all agencies and departments of the State and federal government relating to projects or works of improvement affecting waters within the State and making

recommendations to the agencies involved and to the Governor as to the desirability, feasibility, and practicability of proposed projects.

The new law provides that written approval of the Director shall be obtained before any contract or agreement shall be made by any department or agency of the State or any municipality with any federal agency or department for the collection of basic data pertaining to surface or ground waters of the state. Even before this amendment, the Director, with the approval of the Commissioner of Conservation, could make cooperative agreements with any person, corporation, or governmental authority to effectuate the provisions of this section. Thus, within the limits of his authority, the Director can enter into agreements with the federal government.

2. Water Resources Board Established

The legislature also established the Minnesota Water Resources Board composed of three members, appointed by the Governor for staggered terms of 6 years.

In drafting the law, however, the legislature did not spell out the philosophy outlined for the functions of the Board by the Interim Commission. The Commission suggested, "It is to be a policy-determining body at the State level, having either original or review jurisdiction whenever a decision of a department or agency of government concerned with conservation calls for a course of action that may have an important effect in more than one of the interrelated areas that involve waters.

"The Board . . . should have no supervisory duty over any department or agency of government; second, it should not be a way to by-pass or postpone judicial action where the question is clearly for a court."

Applications for Watershed Districts.—Another act of 1955, the Minnesota Watershed Act, gave the Board the

duty of entertaining petitions and holding hearings for the establishment of watershed districts. The new arrangement eliminates the necessity for a court to act as administrative authority, which the Interim Commission considered one of the chief weaknesses of the former procedures.

Some criticism of the new law was expressed because the State Board was not given power to initiate surveys, organize districts, and promote conservation practices. Others argue that the State should confine its activities to supervision and allow local people to control the initiation of district organization as well as the undertaking of planning and construction. Apparently the Board will not be handicapped in its investigation of applications as it has power to employ personnel and has available the services of the Division of Waters. However, the Board cannot act as a state policy-determining body.

3. Public Waters Not Defined

The third recommendation of the commission that "The statutory definition of public water subject to public control be clarified by express inclusion of private water affected with the public interest," is beyond the scope of this bulletin. The recommendation was the result of the judicial decision in the case of *State by Burnquist v. Bollenback*, 63 N.W. 2d 278 (1954). The question this case raises is whether ownership of the lake bed is the determining factor in deciding whether the water is public or private. The 1955 legislature did not act on this recommendation.

4. Conservancy Districts Law Revised

The Commission also recommended these revisions of the Conservancy District Act:

1. There be a restatement of the policy objective and minimum organizational requirement for the creation of a district.

2. The law show that primary responsibility is local.

3. Decisions involving state policy be made at the state level.

4. The right of judicial review of administrative decision by district boards and by the State be expressly preserved and defined.

5. In amending the Drainage and Conservancy District Act, the requirements of the Federal Watershed Act be met. The Commission stated here, "The Commission believes that the most effective means for small watershed development is the drainage and conservancy district. Through this agency, financial responsibility is established."

Enactment of Watershed District Legislation.—The Commission felt that the district courts were unsuitable administrators for the watershed districts because: (1) the separation of powers between the legislative, administrative, and judicial branches is broken down when the district court is both administrator and judge; and (2) the district courts are not equipped with adequate personnel to assume this fulltime non-judicial task.

The legislature followed the Commission's recommendation and provided that the watershed district be organized like and have all the powers of a corporation and that the administration be placed in the hands of a board of managers, with powers similar to a board of directors in a corporation. Local people are to be appointed to this board. They have power to decide local problems, while the State Water Resources Board has power to review these decisions and has original jurisdiction over problems at the state level. Decisions of both local and state boards are subject to review by the courts.

The Retention of Conservancy Districts.—The Commission recommended that the requirements of P. L. 566 should be met by amending the Drainage and Conservancy Act. The original bill in the 1955 session proposed that both the Conservancy District Act and the Drainage and Flood Control Act be repealed. However, the bill was amend-

ed to retain the Conservancy District Act.

Minnesota law now provides for conservancy districts and watershed districts. The former provides for districts organized under the district courts and the latter for districts under the State Water Resources Board. Both types of districts are concerned with the same problems.

Apparently the legislature did not have complete faith in the new law and decided to retain the older law as a safety measure. Does this mean that petitioners can choose their hearing body? If the watershed act proves adequate, the courts might refuse to entertain petitions under the Conservancy Act and insist that the Watershed District Act be used.

WATERSHED DISTRICT ACT OF 1955

The watershed district is a public corporation organized to carry on activities for conservation and development of the natural resources of the State through better land utilization, flood control, and other measures.

Organization Procedure

Originating Nominating Petition.—A watershed district is established by filing a nominating petition with the secretary of the State Water Resources Board. This petition may be originated in one of three ways: (1) by obtaining the signatures of at least 25 percent of the resident freeholders of the district, in which case a bond must be filed with and approved by the State Board; (2) by obtaining the signatures of the authorized officials of one or more counties within the district; or (3) by obtaining the signatures of the authorized officials of three or more cities, villages, or boroughs within the district.

Alternative requirements for originating the petition are allowed because both rural and urban groups may be included within the watershed. Since only 25 percent of the resident freeholders need to sign the petition, the

State Water Resources Board must exercise care in conducting the hearings in order fully to ascertain the attitudes and the possible conflicting views of the local people.

Contents of Petition.—The petition must set forth: (1) the name of the district; (2) the necessity for the district and how it would accomplish the purpose of the act; (3) the purpose of the improvements, the territory to be included, and the proposed subdivisions; (4) the number of proposed managers (from 3 to 5) to be selected from 10 nominees; (5) a map of the district showing improvements; and (6) request for the organization of the district.

Action on Petition.—A copy of this petition is to be served on the county auditors of the counties affected, the Commissioner of Conservation, and the Director of the Division of Waters. Proof of service is to be attached to the original and filed with the secretary of the State Water Resources Board.

Following the serving of the petition, the county auditor determines whether petitioners are resident freeholders and certifies findings to the Board. The Director (Division of Waters) acknowledges receipt of the petition to the Board, prepares a preliminary watershed map showing natural boundaries and subdivisions, and within 30 days from the date of service of the petition makes a recommendation to the State Board concerning the feasibility and practicability of the improvement of the district.

Within 10 days after the State Board is convinced of the sufficiency of the petition, it shall fix a time and place within the district for hearing. Notice of the hearing on the petition shall be given by the Board, by mail, to each person affected; the last notice shall be at least 10 days before the hearing. The notice is to include: (1) verification that the petition has been filed; (2) a general description of the purpose and territory; (3) the date, time, and place of hearing; and (4) a statement that all persons affected may appear.

Establishment of District.—If upon hearing, the State Board finds that the purpose of the act would be served by the district, it shall: (1) establish and create the district; (2) give it a name; (3) file a certified copy of the findings and order with the Secretary of State; (4) name the first board of managers; (5) designate the principal place of business; and (6) mail a copy of the findings to the county auditors of each county affected, the Commissioner of Conservation, and the Director of the Division of Waters. If the Board dismisses the petition, a copy of the findings and decision is to be sent to the county auditors, the Commissioner, and the Director.

Appeal from State Board Decision.—Any person aggrieved by a final order, regulation, or final decision of the Board relating to creation of a district, may get review in district court. The court on its own motion or by motion of others may take additional testimony. It may try an issue *de novo* (court is not bound by the facts as found in hearing by the Board). There shall be no jury trial on an appeal from a decision on a nominating petition. Certiorari is not the exclusive method of obtaining review; mandamus, injunction, and other remedies may be used.

Plan and Work Petition

Following the establishment of the district, the managers are to adopt an overall plan for projects and improvements within the district. This plan should be general, not detailed; plans for specific projects that are adopted later must be consistent with the overall plan. There is no explicit provision in the statute for amending the overall plan.

Before any works of the district (which are to be paid for by an assessment on the benefited properties) are instituted, it is necessary to obtain a petition signed by not less than 25 percent of the resident freeholders or by the owners of more than 25 percent of

the property within the limits of the area to be improved; or, petition may be approved by a county board or by a governing body of any city or village within the district.

This type of petition is similar to those used in establishing judicial and county drainage ditches, except that in a ditch proceeding it is necessary to have 51 percent of the resident landowners, or owners of 51 percent of the land, sign the petition. Although it may be argued that a majority should not be necessary, it may also be argued that if the project is to be initiated by a minority, it should be required to act through a board of county commissioners or through officials of a city or village.

Financial Powers

Watershed districts can raise money and thus assume the financial responsibilities under P. L. 566 in several ways. In general, the special assessment on benefited properties, as opposed to use of general revenue, is used.

The statute describes three types of funds: (1) a preliminary fund to be used for organizational expenses; (2) a bond fund, derived from sale of watershed district securities (secured by the property of the district) and used to purchase and improve property; (3) a construction and maintenance fund, supplied by the sale of county bonds.

The preliminary fund, which is not to exceed \$20,000, can be established by borrowing money from the county general revenue fund or by the levy of a limited assessment against the lands and people benefited.

Obtaining Construction Funds.—The bulk of funds available to a district will come from the construction and maintenance fund. Concerning these moneys, the watershed statute refers to MSA 1953, s 106.11-.661, which is the drainage act. The following steps are necessary in order to obtain construction funds:

1. After the filing of the engineers' report, the managers of the district ap-

point three disinterested resident freeholders to act as appraisers.

2. The appraisers inspect the area and report on the benefits and damages that will result to all interested parties. In no instance may the resulting assessments exceed benefits.

3. Following any appeals, a benefit assessment list is given to the county auditor, who records the amounts as charges against the benefited properties.

4. The county must then provide funds to meet the obligations. This is usually done in drainage undertakings by issuing ditch bonds.

The charges or liens against the property are to be collected in installments in the same way that regular property taxes are collected, and the county is eventually repaid with interest. Repayment is usually over a period of 10 years, but upon application to the district court the period may be extended to 20 years. This method of financing provides the district with ready cash for construction and permits the burden of repayment to be distributed over a number of years. The managers may also levy on the beneficiaries an assessment for repair. Such assessments are to be made pro-rata according to benefits originally determined.

P. L. 566 Loans.—The Secretary is authorized to make loans or advancements to local organizations to finance the local share of costs of carrying out works of improvement provided for in P. L. 566. The loan plus interest is to be repaid in not more than 50 years from the date when the principal benefits of the works of improvement first become available. The amount of any loan or advancement shall not exceed five million dollars for any single plan for works of improvement.

The Administrator of the Farmers Home Administration, subject to a working agreement entered into with the Administrator of the Soil Conservation Service, is responsible for carrying out the authority to make the loans or advancements. However, no loans or advancements are to be made until

the Administrator of the Soil Conservation Service and the local organization have agreed on a plan for works of improvement and, if required, the plan has been approved by the appropriate committees of the Congress.

General Revenue Funds.—There is no provision for use of general revenue to finance a watershed project. However, if a district should fail and the value of the properties that support the liens is less than the amount of the unpaid bonds, then the county might need to pay some bondholders from its own revenues. Aside from a collection-failure situation, there is a possibility that a county might be able to use general revenue funds under authority of MSA 1953, s 110.121-.39. This chapter allows the use of general revenue to improve any body of water for the promotion of public health, safety, and welfare.

In the absence of experience with the 1955 law, a study of the success or failure of projects under the drainage statutes or the Drainage and Conservancy Act might indicate the financial problems that will be encountered under the Watershed District Act.

Meeting P. L. 566 Requirements

In order to qualify for assistance under the act, a watershed district must be an eligible local sponsor and it must have authority to meet the specific requirements of section 4 of P. L. 566.

To be eligible, a local organization must have authority under state law to carry out, maintain, and operate the works of improvement. MSA 1955, s 112-43, subsection 1, of the Minnesota Watershed Act states, "The managers . . . may: 4) acquire, operate, construct, and maintain dams, dikes, reservoirs and appurtenance works." There should be no doubt that this grant is sufficient to qualify a watershed district as an eligible local sponsor.

The more specific requirements that a district must meet are spelled out in section 4 of P. L. 566: "The Secretary shall require as a condition to provid-

ing federal assistance for the installation of works of improvement that local organizations shall:

"1. Acquire without cost to the Federal government such land, easements, or rights-of-way as will be needed in connection with works of improvement installed with Federal assistance;

"2. Assume (a) such proportionate share as is determined by the Secretary to be equitable in consideration of the direct identifiable benefits, of the cost of installing any works of improvement, involving federal assistance, which is applicable to the agricultural phases of the conservation, development, utilization and disposal of water, and (b) all of the cost of installing any portion of such works applicable to other purposes except that any part of the construction cost (including engineering costs) applicable to flood prevention and features relating thereto shall be borne by Federal government and paid for

by the Secretary out of funds appropriated for the purposes of the Act;

"3. Make arrangements satisfactory to the Secretary for defraying costs of operating and maintaining such works of improvement, in accordance with regulations presented by the Secretary of Agriculture;

"4. Acquire, or provide assurance that landowners or water users have acquired, such water rights pursuant to State law, as may be needed in the installation and operation of the work of improvement; and

"5. Obtain agreements to carry out recommended soil conservation measures and proper farm plans from owners of not less than 50 percent of the lands situated in the drainage area above each reservoir to be installed with Federal assistance; and

"6. Submit a plan of repayment satisfactory to the Secretary for any loan or



Fig. 3. Farm conservation plans are an essential part of watershed development.

advance made under the provisions of section 8."

It would seem that the first requirement is met by MSA 1955, s 112.41 of the Minnesota law, which gives the district the power of eminent domain, and by MSA 1955, s 112.43 (6) which gives the board of managers power to "acquire by gift, purchase, or the right of eminent domain necessary real and personal property."

The second, third, and sixth requirements can be met under powers given the district by MSA 1955, s 112.67. "The managers may enter into contracts with the United States Government . . . for cooperation or assistance in constructing, maintaining and operating the works of the districts." The district's fiscal powers, discussed earlier, are adequate for purposes of P. L. 566.

As for the fourth requirement, possibly MSA 1955, s 112.43 (5) would be held to apply. This section states that the managers have power to "regulate, conserve, and control the use of water within the district." If the courts do not feel that this section allows the managers to acquire such water rights as may be needed, it can almost certainly be argued successfully that water rights are property rights incident to the ownership of the riparian lands and thus subject to eminent domain under MSA 1955, s 112.41 and 112.43 (6) of the Minnesota law.

The fifth requirement may be the most difficult to meet. District managers have no power to compel landowners to agree to carry out soil conservation measures; they must depend on voluntary agreements. Although the law itself calls for agreements from owners of not less than 50 percent of the lands, the Secretary of Agriculture requires that at least "75 percent of all land treatment measures above structural works, must be installed or planned for concurrent installation prior to providing Federal assistance for the structural works." This final requirement could place an effective weapon in the hands of a minority group.

There is no doubt that a watershed district can qualify as a local sponsor under P. L. 566 as amended, but in some instances the fifth requirement, in particular, may be difficult to meet.

AMENDMENTS TO SOIL CONSERVATION ACT

In addition to the legislation recommended by the Interim Commission, the 1955 session of the legislature also amended MSA 1953, s 40.07, relating to the powers of the soil conservation districts. This was most urgent in point of time because there was doubt as to whether a soil conservation district had the necessary legal authority to act as a local sponsor of a project under P. L. 566.

The amendment allows the districts to apply for federal assistance under the act. It gives the district the power to meet all the requirements of P. L. 566, as listed in section 4, except subsection 6. This is done by stating that the district may make application for aid under the federal act and may do all things required in the first five subsections of section 4 of P. L. 566.

Lack of Financial Ability

However, the amendment adds that no financial obligations, express or implied, may be created in excess of moneys of funds under control and supervision of the soil conservation district. This restriction would appear to prevent a soil conservation district from acquiring a federal loan under P. L. 566. Since the district does not have the power to tax, its ability to finance initial installations after an application has advanced through the planning stage would be limited largely to voluntary contributions. The limitation is significant when a project involves a large local contribution.

The situation emphasizes the difference between an organization having legal authority without substantial independent financial power and one having financial power as well as ability

to act as a sponsoring organization. The adequate fiscal powers, are qualified soil conservation districts, which lack during the application and investigation

Minnesota Applications Under P. L. 566, as of December 1, 1956

Watershed	Sponsors	Counties	Size in Acres
1. Rush-Pine Creek	Whitewater SCD East Fillmore SCD Root River SCD Rushford Area Drainage and Conservancy District	Fillmore Houston Winona	88,050
2. Ten-Mile Creek	Yellow Medicine SCD Lac Qui Parle SCD Lac Qui Parle County Board of Commissioners Village of Boyd	Yellow Medicine Lac Qui Parle	59,826
3. South Fork of Crow	Kandiyohi County SCD	Kandiyohi Meeker Renville	143,960
4. Coon Creek	Anoka County SCD Anoka County Board of Commissioners	Anoka	60,160
5. Spring Creek No. 1	East Agassiz SCD Norman County Board of Commissioners	Norman	97,000
6. Bitter Creek	South Goodhue SCD	Goodhue	2,440
7. Middle Fork of Two Rivers	Kittson SCD Kittson County Board of Commissioners Roseau County Board of Commissioners Village of Hallock	Kittson Roseau	150,000
8. Janesville Village	LeSueur County SCD Waseca County SCD Blue Earth County Board of Commissioners Janesville Township Waseca County Alton Town Board City of Janesville	Waseca Le Sueur Blue Earth	32,000
9. Spring Creek No. 2	East Goodhue SCD Dakhue	Goodhue	16,688
10. Crane Creek	Steele County SCD Waseca County SCD Steele County Board of Commissioners Waseca County Board of Commissioners	Steele Waseca	65,400
11. Bear Valley	East Goodhue SCD Lake Pepin SCD	Goodhue Wabasha	29,440
12. Lost River	Clearwater SCD Red Lake Drainage and Conservancy District Clearwater County Board of Commissioners	Clearwater East Polk	63,000
13. Stony Run Creek	Yellow Medicine SCD Lac Qui Parle SCD Ten-Mile Lake Town Board Stony Run Town Board	Yellow Medicine Lac Qui Parle	31,200
14. North Branch of Two Rivers	Kittson County SCD Kittson County Board of Commissioners Roseau County Board of Commissioners Village of Lancaster	Kittson Roseau	221,000
15. Mud River	Marshall-Beltrami SCD Red Lake Drainage and Conservancy District Marshall County Board of Commissioners Beltrami County Board of Commissioners	Marshall Beltrami	248,000
16. Dry Weather Creek	Chippewa SCD Rosewood and Havelock Townships	Chippewa Swift	64,400
17. Beaver Creek	Root River SCD Houston County Board of Commissioners	Houston	34,530
18. Zippel	Lake of the Woods SCD Lake of the Woods County Board of Commissioners	Lake of the Woods	60,000
19. South Buffalo	Clay County SCD Clay County Board of Commissioners	Clay Otter Tail Wilkin	170,000
20. Crooked Creek	Houston County Board of Commissioners Root River SCD	Houston	44,000
21. Garvin Brook	Rollingston, Stockton, Gillmore SCD Winona County Board of Commissioners Village of Stockton Village of Minnesota City Warren Township	Winona	28,990
		Total	1,710,084

scales. If the Subcommittee agreed that one application was more deserving than another, it was given a higher priority. As the number of applications increased, this procedure seemed unsatisfactory.

The Subcommittee has devised a rating scale, consisting of nine items, each to be rated from 0 to 100 (except number 9 which is to be rated from 0 to 200). If an application receives a total of 800 or more points, it receives an "A," 700-799 a "B," and 600 to 699 a "C" priority. If it fails to score at least 600 points, the application is disapproved.

The following items are rated by the Committee:

1. Flood and sediment damage including (a) damage to farm crops and land and (b) damage to other property. Considered in the former are the value of the crops grown, the average number of floods per year, the number of years in the last 10 years in which there have been floods, and the importance of the flooded land to the farm units. The other property damage includes the amount of loss to farmsteads and livestock, cities and villages, roads and bridges, sediment damage to lakes and streams, and adverse effects on water supplies and sanitation.

2. Soil erosion problems, including the amount of damage from gully, sheet, streambank, and wind erosion.

3. Drainage and water management problems, including the amount of work needed on the main outlets, and the percentage of land needing tile outlets, surface drainage, and irrigation.

4. Possibilities of prevention of damages through the use of structures, including the effectiveness of retention reservoirs, channel improvement, streambank control, level terraces, etc., toward solving problems listed in 1, 2, and 3.

5. Possibilities of prevention of damages through the use of land-treatment practices.

6. Percentage of cropland to total watershed area, and relative land values. This is a device for recording

a general judgment on the relative quality of the land as a rough index to probable benefits, before cost studies are made.

7. Contribution of watershed to reforestation, wildlife, and recreational values.

8. Contribution of watershed to overall flood prevention in the larger watershed of which it is a part, giving credit to those projects that will have a beneficial effect on downstream areas.

9. Local cooperation, including organization and land-treatment accomplished. In organization, consideration is given to the degree of organization and cooperation among the sponsors; the nature and strength of any local opposition; the sufficiency of local financing arrangements; and the interest of the local people.

Under land-treatment accomplished, land-treatment measures in effect, structural work accomplished, number of cooperators, and number of basic soil conservation plans written by the soil conservation district are considered.

While this rating scale has been useful as a guide, it has not proved fully satisfactory as a method of final selection. Some of the problems connected with its use are mechanical. For instance, if the watershed being viewed is in an area where there is little wildlife and recreation, the rating on this item will be low. Thus the possibility of the area receiving a passing score is affected by an item that is of no importance in that watershed. This might be solved by having the Subcommittee decide what items are applicable and then require a certain percentage score on the applicable items.

Another problem connected with this scale is that it tends to give a higher rating to the more prosperous agricultural areas. Thus the watersheds with a high percentage of cropland, high land values, and a large amount of land treatment accomplished will receive the highest rating.

A third problem is that of individual interpretation of what is meant by each

item. Problems of this nature indicate that it would be more appropriate to use the rating scale as a guide rather than as a final method of selection.

Obtaining Information

An important problem facing local sponsors is the need for information. Many applications are being made for P. L. 566 assistance, but few sponsors are sufficiently familiar with the provisions of this act. Officers of the sponsoring organizations should obtain copies of the law and supplementary information. Soil Conservation Service employees will explain the law and requirements. Understanding of the law would avoid applications for projects not intended for inclusion under the act. One early application, for example, was dismissed because the problem was so small in size that it could be handled within other existing government programs.

Pre-Investigation Arrangements

Early experience with this program indicates that local organizational meetings should be held before the State Soil Conservation Subcommittee investigation and all interested individuals and organizations should be invited to participate. It would be helpful if interested individuals and organizations would sign a petition pledging active participation.

It is important that individuals within the watershed be in substantial agreement. One Minnesota application was tabled because of disagreement among the landowners.

If the landowners intend to rely on county road and bridge funds, county or judicial ditch assessments, or federal loans, for example, then exploration and tentative arrangements for this financing should be accomplished before the State Subcommittee makes its investigation.

If a problem involves wildlife, representatives of the United States Fish and Wildlife Service and the State Department of Conservation should be in-

vited to attend the meetings and contribute their views.

If differences of opinion are ironed out before the investigation, the watershed project application will receive a higher rating.

Presentation of Facts

If a watershed application is to be approved, and especially if it is to receive a high priority, it must receive a high rating on the items listed. If a proposal is to receive its proper and deserved priority rating, the local sponsors must do some preliminary work and present the facts effectively.

Among other things, they should be able to tell the Subcommittee how many acres of land are subject to flooding, how much erosion has taken place, and how much money is being expended annually for damaged roads and bridges. This information can be obtained from individual farmers, state and federal agencies, and township and county officers. It is hoped that in the future the State Conservationist's field examination can be made before the State Committee assigns a priority rating. The priority rating could then be based on both the Subcommittee's investigation and discussion with the local sponsors and the more detailed report of the State Conservationist.

RECOMMENDED LEGISLATION

Minnesota appears to have the minimum legislation necessary to initiate P. L. 566 programs. However, the 1955-56 experience indicates some areas to which the state legislature may wish to give renewed attention. The more important of these are summarized below.

Use of State and County Revenue

If the state constitution permitted it, the legislature might well consider the use of state or county funds to help finance watershed-improvement projects. Connecticut recently enacted legislation that authorizes state payment of nonfederal costs of P. L. 566 projects.

California legislation also authorizes the state to pay for land, easements, and rights-of-way.

Watershed Projects Cooperation Bill

During the 1955 session a "Watershed Projects Cooperation Bill" was introduced. This bill would enable soil conservation districts and other existing local agencies (conservancy districts, counties, towns, cities, and boroughs) to cooperate in small watershed projects without creating any new special agencies. This bill was approved by the House but did not come to a vote in the Senate.

Expansion of State Water Resources Board

The statute that authorizes the State Water Resources Board needs expansion. If Minnesota is to have a unified water policy, the State Board must have review jurisdiction over departmental decisions. The North Dakota Board has long been cited as an outstanding example of this type of state agency. During their last legislative sessions, North Carolina and Kansas created state water resource boards. Both of these boards have more authority than Minnesota's Board, and the Kansas statute appears to achieve the objectives sought by the 1953-55 Minnesota Interim Commission.

EFFECTIVE SPONSORING ORGANIZATION

These suggested legislative changes call for a re-examination of the problem of the values of a special district as sponsor versus a combination of existing local agencies. The answer will likely depend on the complexity of the water problem. It is easy to state the principle that the problem should be solved at the lowest governmental level, consistent with efficient administration. The difficulty is to achieve this goal when the problem is so complex as to require a special organization.

Apparently, an effective sponsoring organization would be an agency (district, subdistrict, or a combination of multiple sponsors) organized along

watershed lines and possessing both legal authority to meet the basic requirements of P. L. 566 and the financial ability to assume the local obligations. Minnesota does not have this type of sponsor. As of December 15, 1956, one watershed district had been organized and one additional application had been filed with the Water Resources Board. The available procedure is lengthy and the expense is likely to be considerable.

If a P. L. 566 project were the only reason for organizing a watershed district, there might be few situations in which this type of district would be necessary. However, there are other sound reasons for organizing districts. The purposes and powers of a watershed district are broad. Any watershed that has serious recurring floods, poor drainage, and water conservation and related problems would benefit by establishing an effective watershed district. The watershed would then be represented by a board of directors whose task would be to solve the interrelated water problems of the area. This board would be assisted by an advisory committee made up of men representing the various interests concerned. This arrangement would promote a more coordinated program.

In planning for a more comprehensive approach to the watershed's problems, a district board might propose, for example, to take over the entire judicial and county ditch system; and the present Minnesota law makes possible a shift of this kind. The watershed district would have better means available for raising funds, and the watershed residents would have an effective sponsor for P. L. 566 projects.

Multiple Sponsoring Agencies

If the project involves a sizable financial outlay from local sources, both a watershed district and a soil conservation district are advisable. If the planned outlay is small, a soil conservation district plus special funds might be used. A county or a judicial (inter-

county) ditch can be established to finance drainage projects. If the problem concerns control of the level of public waters, general revenue might be available (MSA 1953, s 110.121-.39), and the expense of rebuilding roads and bridges could be financed from general revenue. Agricultural Conservation Program funds could be pooled for watershed work, loans might be obtained from federal agencies or commercial banks, and voluntary contributions would sometimes be forthcoming.

For the larger and more complex multiple purpose projects in a local

watershed, a comprehensive program administered by a strong, unified district organization may be most desirable for effective management. The optimum organization might well be a watershed district, working in cooperation with a soil conservation district. Or it might be a cooperative effort among existing local agencies (soil conservation districts, counties, towns, cities, and boroughs). If it is to be the latter, passage of the "Watershed Projects Cooperation" bill would permit this arrangement on a more formal basis.

Appendix—Actions on Applications for Federal Assistance Under P. L. 566

THIS DESCRIPTION of the steps an application goes through from the time of its initiation until final approval is included for two reasons: (1) to acquaint the local organization with its responsibilities in respect to the application; (2) to inform the local organization of the complexity involved in the procedure. This procedure will be time-consuming. If the sponsors recognize this fact from the beginning, the foreknowledge may prevent loss of interest.

Two types of approval are necessary under the act. The first is approval for planning. The second is approval for construction.

APPROVAL FOR PLANNING

The local organizations should submit the original application to the Minnesota State Soil Conservation Committee. This Committee has 45 days in which to consider the application. If approved, or not disapproved, within the stated time, the application is sent to the State Conservationist.

Before acting on the application, the Committee conducts a field examination. If the application is then approved, it is compared with other applications that have been approved by the State and given a priority rating. The State Committee has adopted a rating scale

that is used in comparing applications for federal assistance.

A field examination report, prepared by the State Conservationist, must accompany each application. It is made if the application meets the legal requirements and has not been disapproved by the State Committee. The Conservationist should invite the local sponsors and other interested parties to participate in developing the report, which should contain a summary of the physical characteristics of the watershed. Facts concerning ownership and tenure, watershed problems, project objectives, local interest and participation, and an estimated time schedule should also be included.

In general, the report is to be a review and confirmation (or otherwise) of the accuracy and adequacy of the application.

The State Conservationist then forwards the application, the State's field examination report, the State's priority rating, his own field examination report, and his recommendation to the Administrator of the Soil Conservation Service. On the basis of this information and recommendation, the Administrator makes final approval of the application. This is approval for planning. The Federal government is not committed in any other way.

APPROVAL FOR CONSTRUCTION

Following this approval for planning, the State Conservationist arranges to provide planning assistance to the local organization. The planning assistance takes the form of a work plan described in the *Interim Watershed Protection Handbook* as follows: "The watershed work plan will describe the watershed and its problems and set forth clearly and concisely a plan, a schedule of operations, the estimated cost, proposed cost-sharing arrangements and other responsibilities of those participating in the project, and economic justification for installing, operating, and maintaining those measures needed for protection and improvement of that watershed."

Preparation of the work plan is fundamentally a joint responsibility of the local sponsoring organization and the United States Department of Agriculture. In practice, the State Conservationist selects and sends out a watershed work-plan party, and in cooperation with the local organization, determines possible solutions. The local organization is then free to accept any approved combination of the alternatives. It may accept part of a plan and reject the rest of the parts that are not interdependent.

When a tentative agreement has been reached between the work-plan technical party and the local agency, the State Conservationist is responsible for review. When the plan is mutually acceptable to the Conservationist and the local organization, it is forwarded to the Administrator. Upon his approval it is sent back to the State Conservationist for final negotiation. At this time, the Conservationist obtains a firm commitment from the local sponsor. This commitment relates to both the nature of the program and its financial arrangements.

The proposal is then sent to the Administrator for final review by all concerned federal agencies and final approval by the Secretary of Agriculture. The Secretary's policy provides that

there shall be the fullest possible cooperation with other federal agencies concerned with land and water management. Customary procedure of the Federal Inter-Agency Committee on Water Resources will be followed in notifying appropriate field representatives of concerned federal agencies when an investigation is to be initiated.

Whenever the estimated federal contribution to the construction cost of works of improvement shall exceed \$250,000 or the works of improvement include any structure having a total capacity in excess of 2,500 acre-feet, the Secretary transmits a copy of the plan and the justification therefor to the Congress through the President.

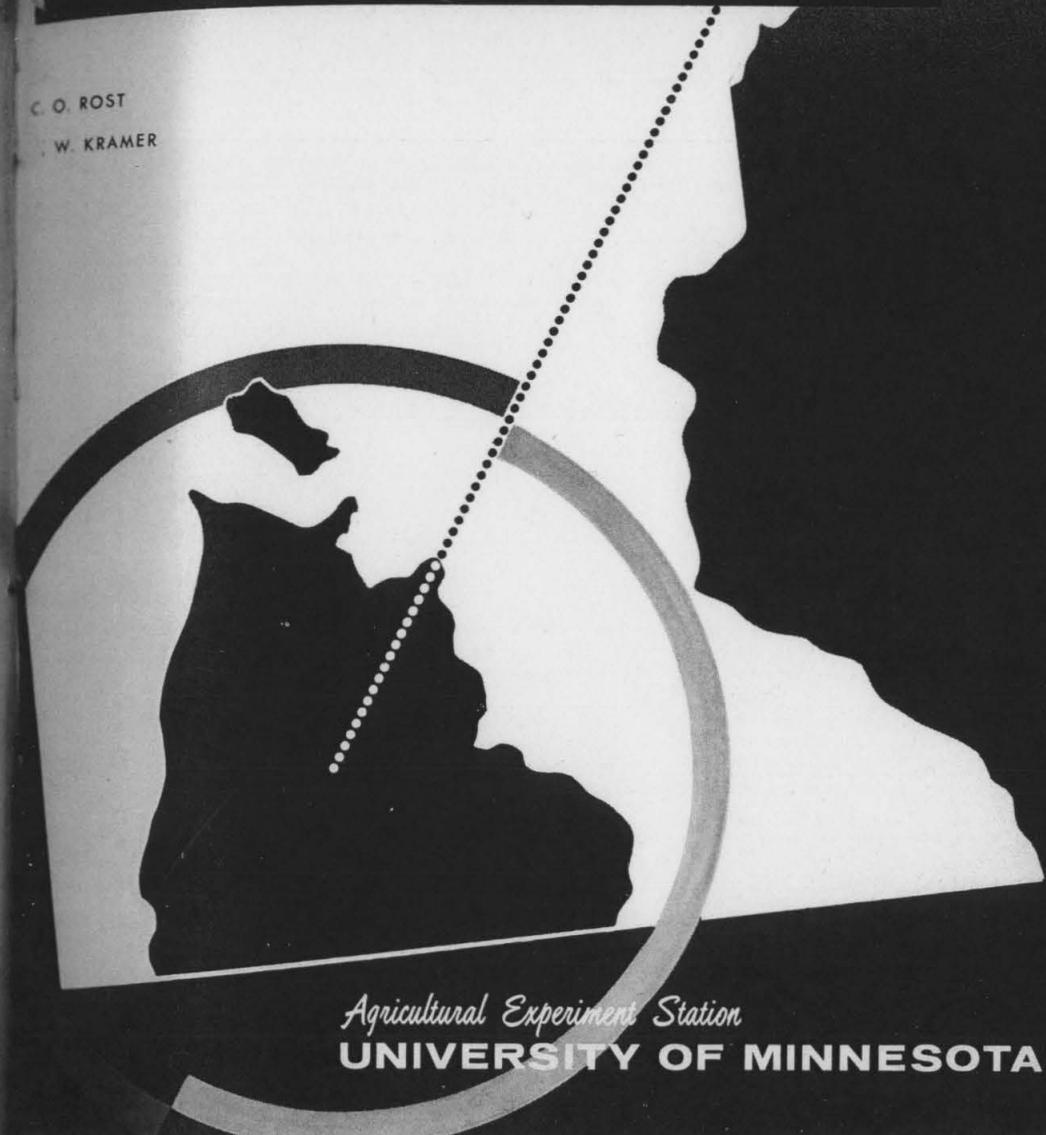
The amended Act provides that any such plan "(a) which includes reclamation or irrigation works or which affects public or other lands or wildlife under the jurisdiction of the Secretary of the Interior, or (b) which includes federal assistance for floodwater detention structures, shall be submitted to the Secretary of the Interior or . . . Army, respectively, . . . at least 30 days prior to transmission of the plan to the Congress through the President."

Under the law, no appropriation shall be made for any such plan unless it has been approved by resolutions adopted by the appropriate committees of the Senate and House of Representatives. If there is no single structure larger than 4,000 acre-feet, the appropriate committees are the Committee on Agriculture and Forestry of the Senate and the Committee on Agriculture of the House. If there is a single structure larger than 4,000 acre-feet the law specifies that the appropriate committees shall be the Committees on Public Works of the Senate and House of Representatives.

The Administrator of the Farmers Home Administration is responsible for carrying out the loan provisions of the amended federal act, but the procedures to be followed had not been announced at the time this bulletin was completed.

SOIL MANAGEMENT STUDIES on the *Webster Soils* OF SOUTHERN MINNESOTA

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